REMARKS

By this amendment, claims 1 - 12 and 23 - 37 are pending in the application, of which claims 1 and 7 are being amended, and claims 28 to 37 are being added.

The claim amendments and added claims are fully supported by the Specification and original claims and add no new matter. For example, the amendments to claims 1 and 7 with respect to the electroplated coating process parameters, and claims 34-37 are supported by the Specification at least at page 9, line 16 to page 10, line 12. Further, claim 28 is a combination of originally presented claim 1 and claim 11, and is being added because claim 11 was objected to but deemed allowable if rewritten in independent form. Thus, entry of the claim amendments and added claims is respectfully requested.

Applicant thanks the Examiner for withdrawing the objections to the Specification, and the 35 U.S.C. 112, second paragraph rejections in view of the amendments and arguments previously made.

Applicant also thanks the Examiner for withdrawing the 35 U.S.C. 102 rejections over Goward at al. (USP 3,754,903), Jackson et al. (USP 6,287,644), and Aguero et al. (USP 5,807,613), in view of the amendments and arguments previously made.

Added Claims 28-33

Added claim 28 is a combination of claim 1 and claim 11. The Office Action indicated that claim 11 would be allowable if rewritten in independent form. Accordingly, claims 28 to 33 should now be allowable.

Rejections Under 35 U.S.C. 102

1. The Office Action rejected claims 1-4, 6 and 23-27 under 35 U.S.C. 102(b) as being anticipated by Morita et al. (USPN 2002/0012791).

In order to anticipate a reference, each and every element of the claim must be disclosed by a single prior art reference. W.L. Gore & Assocs. V. Garlock, Inc., (Fed Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Applicant respectfully submits that Morita et al. does not anticipate amended claim 1, or claim 2 which is dependent therefrom, because Morita et al. does not teach each and every element of claim 1.

As previously acknowledged by the Office Action, Morita et al. does not teach a structure comprising an electroplated coating. Instead, Morita et al. teaches a coating layer which is a sintered composition. A sintered coating layer does not have the same structure as an electroplated coating, nor is formed by an electroplating method, as claimed in claim 1.

Further, in response to Applicant's arguments that Morita et al's. coating is formed by sintering, the Examiner states:

> Applicant's claim does not recite any process parameters or limitations on other steps that may be performed, such as annealing, incorporation of fugitives, sintering, imposed treatments, amongst others. Therefore, the conclusion that applicant's layer described as a product-by-process limitation necessarily cannot encompass the layers exemplified in these prior art references has not been established.

Claim 1 has now been amended to include electroplating process parameters. Specifically, amended claim 1 is to a component having an electroplated coating comprising yttrium-containing species, and which is formed by immersing the

surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; connecting the component structure to a negative terminal of a voltage source; and connecting an anode immersed in the bath to a positive terminal of the voltage source. Thus, claims 1-4, 6 and 23-27, now recite process limitations and so should be allowable over Morito et al..

2. The Office Action further rejected claims 1-4 and 7-10 under 35 U.S.C. 102(b) as being anticipated by Murakawa et al. (USP 6,447,937).

Again, as acknowledged by the Office Action, Murakawa et al. does not teach a structure comprising an electroplated coating as claimed. Instead, Murakawa et al. teaches a coating layer which is applied with a sintered composition. A sintered coating layer does not have the same structure as an electroplated coating as claimed, and is not made by an electroplating process, also as claimed.

Further, Claim 1 has now also been amended to include electroplating process parameters. Specifically, amended claim 1 is to a component having an electroplated coating comprising yttrium-containing species, and which is formed by immersing the surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; connecting the component structure to a negative terminal of a voltage source; and connecting an anode immersed in the bath to a positive terminal of the voltage source, as claimed in amended claim 1.

Claim 7 is also not taught by Murakawa et al. because claim 7 is to a substrate processing chamber comprising a wall around a process zone; a substrate support in the process zone; a ring about the substrate; a gas distributor; a gas energizer; and a gas exhaust port, wherein at least one of the wall, substrate support, ring, or gas distributor, comprises a component capable of being exposed to a plasma in a process chamber, the component comprising a structure having an electroplated coating comprising yttrium-containing species, and the electroplated coating formed by: (i) immersing a surface of the component structure in an electroplating bath comprising

an aqueous solution of yttrium species; (ii) connecting the component structure to a negative terminal of a voltage source; and (iii) connecting an anode immersed in the bath to a positive terminal of the voltage source.

Thus, claims 1-4 and 7-10 now contain process limitations, and should now be allowable over Murakawa et al..

3. The Office Action rejected claims 1, 2, 7 and 8 under 35 U.S.C. 102(a and e) as being anticipated by O'Donnell et al. (USPN 2004/0002221).

As acknowledged by the Office Action, O'Donnell et al. does not teach a structure comprising an electroplated coating as claimed. Instead, O'Donnell et al. teaches a coating layer which is applied with a sintered composition. A sintered coating layer does not have the same structure as an electroplated coating. Claim 1 has also been amended to include electroplating process parameters. Specifically, amended claim 1 is to a component having an electroplated coating comprising yttrium-containing species, and which is formed by immersing the surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; connecting the component structure to a negative terminal of a voltage source; and connecting an anode immersed in the bath to a positive terminal of the voltage source, as claimed in amended claim 1.

Claim 7 is also not taught by Murakawa et al. because claim 7 is to a substrate processing chamber comprising a wall around a process zone; a substrate support in the process zone; a ring about the substrate; a gas distributor; a gas energizer; and a gas exhaust port, wherein at least one of the wall, substrate support, ring, or gas distributor, comprises a component capable of being exposed to a plasma in a process chamber, the component comprising a structure having an electroplated coating comprising yttrium-containing species, and the electroplated coating formed by: (i) immersing a surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; (ii) connecting the component structure to a

negative terminal of a voltage source; and (iii) connecting an anode immersed in the bath to a positive terminal of the voltage source.

Thus, O'Donnell et al. no longer anticipates claims 1, 2, 7 and 8, because these claims now contain process language.

4. The Office Action also rejected claims 1-5 and 25-27 under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al. (JP 11-229142).

Applicant respectfully submits that Takeuchi et al. does not anticipate amended claim 1 because Takeuchi et al. does not teach each and every element of claim 1. As amended, claim 1 is to a component comprising "a substrate processing chamber component structure". Takeuchi et al. does not teach a substrate processing component but instead an LSM tube (Abstract). The substrate processing chamber component structure has a configuration adapted for a substrate processing chamber. The LSM tube is a structure used that appears to be used in an electrical fuel cell application and does not have a structure corresponding to that of a substrate processing chamber component. Thus, the claimed "substrate processing chamber component structure" is not anticipated by the LSM tube taught by Takeuchi et al..

Furthermore, Takeuchi et al. does not teach an electroplated coating as claimed. Claim 1 has now been amended to include electroplating process parameters which include immersing the surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; connecting the component structure to a negative terminal of a voltage source; and connecting an anode immersed in the bath to a positive terminal of the voltage source, as claimed in amended claim 1. Instead, Takeuchi et al. teaches:

> ...As for this electrochemical vapor deposition device, at the time of vaporizing vapor depositing raw material powder at, a high temp., introducing this into a reaction chamber 21 and electrochemically vapor- depositing a YSZ(yttria stabilized zirconia) solid electrolytic film 28 on the inner circumference of an LSM

(porous strontium-added lanthanum manganite) tube 23, the LSM tube 23 is rotated around the axis and is moved in the axial direction, by which, even in the case that the flows of vapor depositing raw material vapor 25, an oxidizing gas 24 and the concn. thereof in the reaction chamber 21 are ununiform, the vapor depositing raw material vapor 25 is vapor- deposited on each place of the inner circumference of the LSM tube 23 at a uniform film thickness to form a film of a YSZ solid electrolyte 28 with a uniform film thickness. (Abstract)

Forming a coating layer by electrochemical vapor deposition is not the same as a coating formed by electroplating by immersing in a electroplating bath as claimed. Claim 7 contains the same electroplating process limitations. Thus, Takeuchi et al. does not anticipate claims 1, 2, 7 and 8.

5. The Office Action also rejected claims 1 – 4, 7 – 10, and 25 – 27 under 35 U.S.C. 102(b) as being anticipated by Otsuki, U.S. patent application 2001/003271 (JP 11-229142).

Applicant respectfully submits that Otsuki et al. does not anticipate amended claim 1 because Otsuki et al. does not teach each and every element of claim 1.

As acknowledged by the Office Action, "[w]hile the coating layer of Otsuki is applied by spraying, electrocuted layers could encompass the structural and compositional characteristics of the coating layers of Otsuki , particularly in view of the lack of claimed processing parameters."

As amended, claim 1 recites electroplating process parameters. Thus, claim 1 is now to a component comprising an electroplated coating which is formed by an electroplating process that includes the steps of immersing the surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; connecting the component structure to a negative terminal of a voltage source;

and connecting an anode immersed in the bath to a positive terminal of the voltage source.

Instead, as acknowledged by the Office Action, Otsuki et al. does not teach electroplating process parameters and instead teaches a sprayed coating. In particular, Otsuki et al. teaches, "[i]n the present invention, the film 14 containing a compound of a III-a element is a sprayed film that substantially comprises Al_2O_3 and Y_2O_3." Thus, Otsuki et al. does not teach a structure comprising an electroplated coating as claimed.

Claim 7 is also not taught by Otsuki et al. because claim 7 is to a substrate processing chamber comprising a wall around a process zone; a substrate support in the process zone; a ring about the substrate; a gas distributor; a gas energizer; and a gas exhaust port, wherein at least one of the wall, substrate support, ring, or gas distributor, comprises a component capable of being exposed to a plasma in a process chamber, the component comprising a structure having an electroplated coating comprising yttrium-containing species, and the electroplated coating formed by: (i) immersing a surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; (ii) connecting the component structure to a negative terminal of a voltage source; and (iii) connecting an anode immersed in the bath to a positive terminal of the voltage source. Otsuki et al. does not teach a structure comprising an electroplated coating as claimed.

For these reasons, claims 1-4, 7-10, and 25-27 are not anticipated by Otsuki et al.

Rejection Under 35 U.S.C. 103(a)

1. The Office Action also rejected claims 7-10 and 12 under 35 U.S.C. 102(b) as being unpatentable over Morita et al. (USPN 2002/0012791).

As recognized by the Office Action, Morita et al. does not teach a structure comprising an electroplated coating. Instead, Morita et al. teaches a coating layer which is applied with a sintered composition. A sintered coating layer does not have the same structure as an electroplated coating.

Further, the previous Office Action states that "electroplated layers could encompass the structural and compositional characteristics of the coating layer of Morita et al., particularly in view of the lack of claimed processing parameters." [Emphasis added].

As amended, claim 7 now recites electroplating processing parameters. Claim 7 is to a substrate processing chamber comprising a structure having an electroplated coating comprising yttrium-containing species, and the electroplated coating formed by: (i) immersing the surface of the component structure in an electroplating bath comprising an aqueous solution of yttrium species; (ii) connecting the component structure to a negative terminal of a voltage source; and (iii) connecting an anode immersed in the bath to a positive terminal of the voltage source.

For these reasons, Morito et al. does not teach or suggest an electroplated coating and instead teaches a sintered coating. Morito et al. also does no teach or suggest electroplating process parameters as claimed. Application of an electroplated coating to a substrate processing chamber structure, and the electroplating process parameters themselves are also not motivated by Morito et al.'s teachings to a sintered composliton. Thus Morito et al. does not render obvious claims 7-10 and 12.

The above-discussed amendments are believed to place the present application in condition for allowance. Should the Examiner have any questions regarding the above remarks, the Examiner is requested to telephone Applicant's representative at the number listed below.

Respectfully submitted,
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